

Amendments to the Claims

Listing of Claims:

Claims 10-12 (canceled)

Claim 13 (previously added) A method for forming an embedded resistor comprising the steps of:

depositing a thin film cermet material comprising $M_xSi_yO_z$;

where $M = W$ or Ta

said deposition onto a substrate is performed by co-sputtering of two targets: a first target of W or Ta and a second target of SiO_2 ;

wherein sputtering of said SiO_2 target is r.f. sputtering; and, deposition of the film on a substrate includes the steps of utilizing r.f. and d.c. magnetron sputtering with argon gas; and controlling the resistivity and TCR of the thin film cermet material by varying the sputtering power and pressure to obtain R_s and TCR values in accordance with the following table:

| R_s (ohms/Square) | TCR (ppm/C) | Pressure (mTorr) | Power (kW) |
|---------------------|-------------|------------------|------------|
| 250 | ≤ -200 | 10 | 2.0 |
| 400 | ≤ -220 | 14 | 1.0 |
| 800 | ≤ -260 | 14 | 0.4 |
| 1500 | ≤ -400 | 18 | 0.4 |

Claim 14 (previously added) The invention according to claim 13 wherein said thin film cermet material is approximately 1000 angstroms thick.

Claim 15 (new) In the method of making cermet thin film resistors having a resistivity of $\sim 0.2-1.5 \times 10^{-2} \Omega\text{-cm}$:

obtaining said resistivity by dry etching without annealing.

Claim 16 (new) In the method of testing cermet thin film resistors having a resistivity of $\sim 0.2-1.5 \times 10^{-2} \Omega\text{-cm}$:

providing 1000 cycles of thermal shock testing over the range of -55 to 125°C to provide $\leq 0.2\%$ tracking for a square resistor pair.

Claim 17 (new) In the method of testing cermet thin film resistors having a resistivity of $\sim 0.2-1.5 \times 10^{-2} \Omega\text{-cm}$:

providing 1000 cycles of thermal shock testing over the range of -55 to 125°C to provide $\leq 0.2\%$ tracking for a square resistor pair to provide $\leq 0.02\%$ tracking for other resistor pairs..
